



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

HUMAN RESOURCES
DIVISION

JULY 24, 1979

B-164031(3)

The Honorable Robert J. Dole
United States Senate

Dear Senator Dole:

Your December 7, 1977, letter requested information on the research and demonstration programs conducted by the Rehabilitation Services Administration (RSA) of the Department of Health, Education, and Welfare (HEW).

In our initial meeting with your office, we agreed to determine how RSA (1) establishes research priorities, (2) conducts peer review of research and demonstration grant applications, (3) processes grant awards, (4) monitors projects, and (5) evaluates and disseminates research results. In addition, we agreed to obtain (1) a list of research and demonstration grants RSA awarded in fiscal year 1977, including the names and locations of the projects, the amount of award for each project, a description of the projects, and descriptions of products produced, and (2) information on agreements and contracts between RSA and the National Academy of Sciences (NAS) for peer review of rehabilitation engineering centers' grant applications.

While collecting the requested information, we discovered that RSA had awarded several evaluation contracts in the same areas of interest as your request. In addition, we noted that legislation had been introduced to create a National Institute of Handicapped Research (NIHR) which, if the bill was enacted, would assume responsibility for administering most of the research programs under the Rehabilitation Act of 1973 (Public Law 93-112), as amended. At that time, these programs were being administered by the Secretary of HEW through the Commissioner of RSA.

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Letter Report

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These developments were discussed with your office on August 11, 1978, and it was agreed that the scope of our review should be revised since much of our proposed efforts either would duplicate work of RSA contractors or might not be meaningful since the RSA research would be terminated by the pending legislation.

We, therefore, agreed with your office to limit our work to (1) developing the latest possible list of research grants awarded by RSA, (2) providing you with the results of RSA's research evaluation contracts, and (3) reporting on RSA's past and present peer review procedures.

On May 7, 1979, we gave your office a list of RSA's fiscal year 1978 research grants and copies of studies prepared by RSA evaluation contractors concerning rehabilitation research and training centers, rehabilitation engineering centers, and peer review procedures. In addition, we briefed your office on the information that we had developed in our review of RSA's peer review procedures and related information concerning NAS and the creation of NIHR pursuant to Public Law 95-602, dated November 6, 1978. We also agreed to provide your office with a statement containing this information.

As discussed with your office, we have suggested to NIHR officials that, when applicable, they use the results of the studies prepared by the RSA evaluation contractors--especially those concerning rehabilitation research and training centers, rehabilitation engineering centers, and peer review procedures--in establishing NIHR operating procedures. The officials agreed to obtain copies of the studies and to use the results when practicable.


An enclosure to this letter describes RSA's grant award process, RSA's peer review procedures from the early 1970s to the present, RSA's relationship with NAS regarding peer review of the rehabilitation engineering centers program, and activities to be administered by NIHR.

As requested by your office, we did not obtain written agency comments. However, we have discussed the information in this report with officials of RSA, NAS, and NIHR and have considered their comments.

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Also, as arranged with your office, we are sending copies of this report to the Secretary of HEW, the Commissioner of RSA, the President of NAS, and the Director of NIHR. We will also send copies to other interested parties on request.

Sincerely yours,


Gregory J. Ahart
Director

Enclosure

THE REHABILITATION SERVICES ADMINISTRATION'S
RESEARCH AND DEMONSTRATION GRANT PROGRAM
AND ITS PEER REVIEW RELATIONSHIP WITH THE
NATIONAL ACADEMY OF SCIENCES AND THE
NATIONAL INSTITUTE OF HANDICAPPED RESEARCH ACTIVITIES
RESEARCH AND DEMONSTRATION GRANT PROGRAM

Title II of the Rehabilitation Act of 1973, as amended, authorizes Federal assistance to State and public or non-profit agencies and organizations to plan and conduct research, demonstrations, and related activities which bear directly on the development of methods, procedures, and devices to help provide vocational rehabilitation services to handicapped persons.

The act authorizes the Secretary of the Department of Health, Education, and Welfare (HEW) through the Commissioner of the Rehabilitation Services Administration (RSA) to make grants or award contracts to pay part of the cost of projects for planning and conducting research, demonstrations, and related activities which assist in providing vocational rehabilitation services to handicapped persons, especially those with the most severe handicaps. HEW, pursuant to title II of the act, issued regulations governing these research and demonstration activities which are contained in chapter IV of title 45 of the Code of Federal Regulations.

In fiscal years 1976-78, the following amounts were authorized and appropriated for RSA's research and demonstration grant program.

	Fiscal year <u>1976</u>	Transition quarter (<u>note a</u>)	Fiscal year <u>1977</u>	Fiscal year <u>1978</u>
Funds au- thorized	\$32,000,000	\$6,000,000	\$30,000,000	\$30,000,000
Funds appro- priated (<u>note b</u>)	24,000,000	6,000,000	29,000,000	31,500,000

a/July 1 to September 30, 1976.

b/Public Law 93-112, as amended, authorizes to be appropriated for each year such additional sums as the Congress may deem to be necessary.

The research and demonstration program is carried out primarily by nonprofit agencies and organizations under grants managed by RSA's Office of Program Development through four sub-units or program offices: (1) the Division of Research, which handles general, psycho-social, medical, and sensory research, (2) the Special Assistant for Research and Training Centers, who administers the rehabilitation research and training centers, (3) the Division of Engineering, which is responsible for rehabilitation engineering centers, and (4) the Division of Utilization, which is responsible for research utilization. The research and demonstration activities of the program offices are described in the following sections.

Division of Research

General research

This area primarily concerns (1) identifying the universe of needs for the disabled, (2) documenting the natural histories of specific severe disabilities, (3) addressing vocational training issues for the disabled, and (4) identifying, assessing, and determining how attitudinal, legal, recreational, and architectural barriers to the disabled can be reduced or eliminated.

Medical research

The overall objectives of this research are to develop new and evaluate existing medical knowledge concerning the handicapped and to use such knowledge in the delivery of vocational rehabilitation services in such areas as spinal cord injuries; cardiovascular, neurological, neuromuscular, pulmonary, and end-stage renal diseases; severe head trauma; and severe burns.

Sensory research

This area concerns improving the delivery of services to and the use of sensory aids for rehabilitating the blind, visually impaired, deaf, hard of hearing, and speech impaired.

Psycho-social research

Research in this area involves (1) assessing the functional capability of the disabled and improving the quality of services provided to the handicapped through increased counselor effectiveness, (2) improving the individual

rehabilitation planning process, (3) improving treatment methods for the mentally ill, and (4) researching post-institutional adjustments of the mentally retarded.

Special Assistant for Research
and Training Centers

Rehabilitation research and training centers undertake research directed toward improving conditions of the handicapped, and promoting their maximum social and economic independence. Related training programs for handicapped practitioners are conducted to disseminate and promote the use of research findings and to reduce the delay between the discovery of new knowledge and its application.

Division of Engineering

Rehabilitation engineering centers are intended to develop innovative methods of applying advances in medical technology, scientific achievement, and psychological and social knowledge. Research at these centers is designed to produce new scientific knowledge, equipment, devices, and combination systems that are suitable for solving problems encountered in rehabilitating handicapped people.

Division of Utilization

This division's activities concern improving (1) information services to store, retrieve, package, and disseminate the final grantee and contractor report results, (2) specific activities to link research with practice and to make service agencies more receptive to change and innovation, and (3) special research to discover more about the change/innovation process.

RSA RESEARCH AND DEMONSTRATION
GRANT OBLIGATIONS

The following table shows the obligations by research area for fiscal years 1976-78.

<u>Program office</u>	<u>Fiscal year 1976</u>	<u>Transition quarter (note a)</u>	<u>Fiscal year 1977</u>	<u>Fiscal year 1978</u>
Division of Research:				
General	\$ 995,389	\$ 230,000	\$ 1,237,255	\$ 1,327,157
Medical	3,647,945	899,866	3,952,929	3,169,205
Sensory	164,035	-	567,018	336,554
Psycho-social	1,261,713	100,000	965,005	1,998,384
Special Assistant for Research and Train- ing Centers:				
Rehabilitation research and training centers	10,340,608	265,500	12,755,000	14,736,919
Division of Engineering:				
Rehabilitation engineering centers	6,250,000	-	7,250,000	7,438,781
Division of Utilization:				
Research utilization	<u>1,364,054</u>	<u>129,535</u>	<u>2,177,740</u>	<u>2,327,771</u>
Total obligations	<u>\$24,023,744</u>	<u>\$1,624,901</u>	<u>\$28,904,947</u>	<u>\$31,334,771</u>

a/July 1 to September 30, 1976.

HOW THE GRANT AWARD PROCESS OPERATES

7/c * The sequential procedures RSA follows in awarding re-
search and demonstration grants include:

- Announcement of the availability of grant funds and receipt and initial review of applications.
- Preliminary review of applications by appropriate Federal, regional, and State officials.
- Peer review of competing applications by a panel of non-Federal experts, who recommend applications for funding.
- Approval for funding of recommended applicants by the Commissioner of RSA.

Separate procedures are followed for continuation applications.

Announcement of availability of
grant funds and receipt and
initial review of applications

The process for awarding grants begins with RSA announcing in the Federal Register that grant funds are available. This announcement includes details on (1) who can apply, (2) the objectives of the research and demonstration, (3) the research and demonstration areas to be funded, (4) the review criteria, and (5) the application due date.

Rehabilitation research and demonstration grant applications are received by RSA's Division of Budget, Grants, and Contracts (hereinafter referred to as the RSA grants unit). This unit makes copies of the applications and sends them to the program office responsible for the announcement. Each program office assigns a project officer, who assists the RSA grants unit in processing the applications. The program office determines whether the applications meet RSA's research goals and objectives. An RSA official told us that applications are rarely rejected. Preliminary review processing is started once applications are determined to be in consonance with RSA's research goals and objectives.

Preliminary review of applications
by appropriate Federal, regional,
and State officials

In the preliminary review stage, the responsible program office circulates applications to other research and demonstration staff, other RSA program offices or specialists, and as deemed necessary, experts in other Federal agencies. The applications are also sent to appropriate regional and State rehabilitation officials for review and comment.

The primary reason for circulating these applications is to avoid duplicate funding of research projects. This review process is coordinated by the project officer responsible for the announcement. The regional and State rehabilitation officials review the applications to (1) determine whether the proposed project is identical or similar to research or demonstrations being done by other grantees and (2) evaluate the applications' strengths and weaknesses.

An RSA official told us that RSA provides no standardized review criteria to reviewers and normally receives only general comments from them. This preliminary review is usually done before the applications are peer reviewed by non-Federal experts.

Peer review of competing applications
by a panel of non-Federal experts

HEW's grants administration manual states that each granting agency or regional office shall include, as part of its review process for all nonformula competing grant applications that meet an agency's goals and objectives, a competitive, objective review by qualified persons independent of the program office concerned. This review is to assist the program office in considering applications. The manual provides for exceptions to this procedure for (1) applications not within the scope of any program announcement published in the Federal Register, (2) proposals with tight time constraints, and (3) noncompeting continuation applications submitted for projects funded the previous year as part of a multiyear grant.

Peer review panel selection

Cognizant program staff assembles a roster of non-Federal individuals with expertise in the area of rehabilitation research, from which the program staff selects a peer review panel. The size of the panel usually ranges from 3 to 10 persons, depending on the number of grant applications to be reviewed. The Commissioner of RSA reviews the initial panel selection and determines the final composition of the panel. Attempts are made, according to an RSA official, to choose a panel whose members are geographically dispersed and include women and representatives of minority groups to guard against claims of bias.

All non-Federal peer reviewers must sign a conflict-of-interest statement when they are selected. The HEW grants administration manual prohibits panel members from serving if they (1) are employed by an applying institution, (2) have relatives employed by the institution, or (3) are seeking employment at the institution.

Peer review before panel meeting

Usually three peer reviewers are selected from the panel to evaluate each application; one of the three is designated as the primary reviewer and the other two as secondary reviewers. The grant applications and an evaluation form for each application are mailed by the RSA grants unit to the primary and secondary peer reviewers 3 to 4 weeks before they meet as a panel.

The evaluation form contains major review categories for evaluating the applications in such areas as (1) the relevance and transferability of the proposed results to RSA's research and demonstration goals and objectives, (2) the applicant's methodology and procedures for conducting the proposed work, and (3) the applicant's budget. Within each major review category, specific criteria statements must be considered. An example of a criteria statement is "Is the budget explanation adequate?" Each statement receives a score from 1 to 7, which is multiplied by a weight factor. The value of the weight factor is determined by the importance of the statement. The score for each criteria statement is then added to give the applicant a total score. The statements may vary from announcement to announcement, depending upon the research area being funded.

Peer review panel meeting

After the initial scoring of the applications, the entire peer review panel meets, usually for 2 or 3 days in Washington, D.C., to discuss the applications. The discussion is led by the primary reviewer. Also attending the panel meeting are (1) an RSA grants official, who acts as an administrative resource person and handles any policy questions, and (2) a program official, who explains in detail the announcement published in the Federal Register.

After discussing each application's strengths and weaknesses, the reviewers may revise their preliminary scores. After all applications have been discussed by the full panel, the scores are tallied and the applications are ranked accordingly. Further discussion is then held, at which time the reviewers may again change their scores.

According to an RSA official, permitting the reviewers to revise their initial application scores aided the peer review process since the other panel members may have been aware of facts concerning the applicant or the type of work being proposed that the reviewers were not aware of or did not adequately consider. He felt that this additional discussion could result in a better consensus of who the best applicants are. However, he recognized the possibility that panel members could exert influence on the reviewers to change their scores without sufficient justification, and said he did not know how the outside influence could be eliminated. Nevertheless, he believes that the benefits of the process outweigh the liabilities.

The evaluation forms and conflict-of-interest statements are collected by the RSA grants unit. After the panel meeting, the primary reviewer's comments are typed, ranking sheets are prepared by the RSA grants unit, and the material is forwarded to the program office for review. The program office staff reviews the Federal, regional, State, and in-house staff comments, along with those of the peer reviewers, before making a final recommendation on the ranking of the applications. According to an RSA official, any changes in the ranking recommended by the non-Federal review panel must be documented by the RSA program staff. The staff then prepares an approval-for-funding form of the recommended applicants, signs the form, and forwards it with the other peer review documents to the grants unit for approval.

Approval for funding of recommended applicants by Commissioner of RSA

The approval form must be signed by the director of the RSA grants unit and the responsible program official before it, along with a package composed of all peer review materials, is sent to the Commissioner of RSA for final approval and signoff. After approval by the Commissioner, the form is sent to the RSA grants unit for processing. Depending upon availability of funds, not all approved applications may be funded. Approved applications are checked by the RSA grants unit to make sure that all costs (such as the overhead rate and fringe benefits) are allowable and that the grantee is using the most economical method of either leasing or purchasing equipment. Also, total project costs may have to be scaled down, depending on the availability of RSA research and demonstration funds. The grant applicant is contacted if the budget is changed or the proposed cost is excessive and must be reduced. An RSA official told us that RSA and the successful applicants are usually able to agree on any changes, but if not, the applicant always can turn down the grant.

The above procedures are for competing applications peer reviewed by a panel of non-Federal experts. Continuing rehabilitation research and demonstration grants (in at least their second year of a multiyear grant) receive a different type of review, which is described below.

Internal review of noncompetitive
continuation applications

The continuation grants are usually awarded for a 3-year period and may go up to 5 years. The length of a project is determined by the type and complexity of research undertaken. The grantee must submit a continuation application each year to maintain the award.

The continuation application, which is generally reviewed in-house, is basically a progress report of the previous year's activity and a proposal for continued funding. The project officer may also make site visits during the grant period to determine the grantee's progress, discuss problems, etc. Such site visits are not required. An RSA official told us that, because salary and expense budget constraints limit the number of site visits that can be made, emphasis is placed on projects that are having problems.

When the continuation application is received, it is reviewed by RSA's grants unit and the cognizant program office. Applications are considered basically noncompetitive if they are still in their 3- or 5-year funding period. The program office may forward the application to Federal and non-Federal experts for review and comment. If the grantee's progress is considered satisfactory, the project is re-funded. If problems are encountered and RSA does not believe the project is accomplishing what was intended in the original and continuation applications, RSA program office staff select non-Federal experts to visit the grantee to substantiate whether problems exist. Based on the findings of this site visit, RSA decides whether the project should be continued.

PAST PEER REVIEW ACTIVITIES
TEMPORARILY SUSPENDED

From May 1973 to November 1975, the peer review process (except for the rehabilitation engineering center program) was abandoned because of an economy move by HEW. Before the suspension, RSA used a study-section-type peer review modeled after the system used by the National Institutes of Health. The study sections were in the sensory, psycho-social, medical, and general research areas. These groups, made up of non-Federal experts, functioned as separate peer review panels for their research area.

On May 4, 1973, RSA received a memorandum from the Office of the Secretary stating that as of May 3, 1973, the sensory, medical, and general research study sections should be abolished. The remaining study section (psycho-social) was to be abolished as of April 30. According to an RSA official, this action was taken because HEW believed that RSA was capable of performing this function internally with its employees and that expenditures for per diem, travel, and consultant costs would be reduced.

The Rehabilitation Act of 1973, as amended, enacted on September 26, 1973, did not require research and demonstration grants to go through a peer review approval process. An RSA agency official told us that before the act was passed, the Senate Committee on Labor and Public Welfare (now the Committee on Labor and Human Resources) and HEW informally agreed that RSA would include peer review procedures in its implementing regulations. The regulations containing these procedures became effective on November 25, 1975. Therefore, between May 4, 1973, and November 24, 1975, no research and demonstration grant applications received outside group peer review, other than the rehabilitation engineering program, whose peer review was done by the National Academy of Sciences (NAS), which is discussed below. During the 2-1/2-year period, applications were reviewed by headquarters program personnel as well as by regional and State vocational rehabilitation program officials. Once the regulations became effective, the peer review process was again implemented.

RSA PEER REVIEW RELATIONSHIP WITH NAS

NAS was chartered by President Lincoln in 1863, to act as an official--yet independent--adviser to the Federal Government in any matter of science and technology. For many years NAS' Committee on Prosthetics Research and Development (CPRD) contracted with RSA, the Veterans Administration, the Department of Defense, and the Maternal and Child Health Services to provide advisory and coordinative services for all Federal agencies with research and training programs in prosthetics and orthotics.

CPRD was originally created in 1945 at the specific request of the Department of Defense to provide advisory and coordinative services in the field to all Federal agencies supporting work in this area. According to an RSA official, this was done to avoid unnecessary duplication of effort and to guide these programs toward realistic goals to benefit the disabled populations they were designed to serve.

CPRD operated within the Division of Engineering of NAS' National Research Council. The Committee membership consisted of physicians, engineers, and representatives of other disciplines interested in furthering the development of improved prosthetic and orthotic devices and sensory aids and their use. Appointments to CPRD, normally for a 3-year period, were made by the Chairman of NAS' Division of Engineering, with the approval of NAS' President.

Although the main purpose of the contract between NAS and RSA during the early 1970s was to (1) coordinate clinical evaluations of research products and (2) conduct workshops to discuss progress and problems in the rehabilitation field, CPRD also performed a peer review function for RSA's rehabilitation engineering projects, but not for the other RSA research areas.

A former CPRD executive director--CPRD is no longer in existence--told us that the Committee received applications for rehabilitation engineering projects from RSA either in batches or individually. They would also get renewals or continuing applications about 2 months before a project's expiration. CPRD's peer review procedures were similar to RSA's procedures, which were described on pages 4 to 9. Sometimes CPRD determined that convening a panel was not warranted, especially if they had to respond to RSA within a few days on certain applications. In this case, the peer review would be conducted by the CPRD executive director by obtaining evaluation of the applications through telephone conversations. Once the peer review was completed, CPRD returned the applications to RSA with a written recommendation for funding. RSA could follow these recommendations or make its own choices.

From about 1972 to 1975 CPRD received about \$400,000 annually for all services provided. A former CPRD executive director estimated that, of the time spent on RSA's contract, 50 percent was spent on workshops, 40 percent on evaluations, and 10 percent on peer review.

In 1975, CPRD was transferred to NAS' Assembly of Life Sciences. A former CPRD executive director told us that, when the new management took over, it was concerned that CPRD staff was operating virtually autonomously. The management also believed that (1) the reports generated by CPRD were generally inferior to NAS' standards, (2) responses from the CPRD staff should basically be advisory, (3) minimal emphasis should be placed on operational activities, and

(4) CPRD should have addressed broader issues in the rehabilitation engineering area.

Shortly after the Assembly of Life Sciences assumed responsibility, CPRD changed executive directors and issued operational guidelines. Under the guidelines the director was required to prepare a list of peer reviewers with details on their qualifications for review by the Assembly. One stipulation was that the peer reviewers could not be grantees of the agencies whose proposals were being reviewed. Around the end of 1975, NAS suspended the services provided by CPRD in order to evaluate its role in this area. Subsequently, CPRD was abolished.

RSA's last contract with NAS covered April 1, 1976, to March 31, 1977. This contract was for NAS to phase out a rehabilitation information clearinghouse that it had established and to complete work on 12 reports on workshops and clinical evaluations. These reports concerned such things as (1) a workshop on children's prosthetic management, (2) the role of engineering in spinal cord injury programs, and (3) a clinical evaluation of prefabricated pelvic girdles for scoliosis treatment.

One report was a plan of action on the national needs for the rehabilitation of the physically handicapped. This report outlined possible future cooperative activities between RSA and NAS to be performed under contract.

As of May 23, 1979, RSA had not entered into another contract with NAS for future cooperative activities. According to an RSA official, this was because (1) a contract for NAS' plan of action as set forth in its report on the national needs for rehabilitating the physically handicapped would have to be awarded on a competitive basis, and, therefore, NAS might not be awarded the contract and (2) the plan as submitted in March 1977 was not completely acceptable to RSA because it was only for advisory services and did not adequately provide for service-oriented activities, such as performing peer review, coordinating clinical research product evaluations, and sponsoring workshops.

NATIONAL INSTITUTE OF HANDICAPPED RESEARCH ACTIVITIES

The recently enacted Rehabilitation, Comprehensive Services, and Developmental Disabilities Amendments of 1978 (Public Law 95-602) created the National Institute of

Handicapped Research (NIHR). Under the act NIHR has been given broad authority and responsibility to assume administration for most of the research programs administered by the Secretary of HEW through the Commissioner of RSA. NIHR is part of HEW's Office of Human Development Services.

NIHR is a single agency designated to administer research programs authorized under (1) title II, sections 202 and 204, of the Rehabilitation Act of 1973, Public Law 93-112, as amended by Public Law 95-602, (2) Public Law 86-610 for international programs related to rehabilitation research, and (3) Public Law 83-480 for foreign currency programs related to rehabilitation research.

NIHR's mission is to provide leadership and resources for research and its utilization to improve the lives of people of all ages with physical and mental handicaps, especially the severely disabled. According to a notice published in the Federal Register on April 26, 1979, the results to be achieved through the exercise of this mission include:

- Identifying and eliminating the causes and consequences of disability.
- Maximizing the healthy physical and emotional status of handicapped persons, their functional ability, self-sufficiency, self-development, and personal autonomy.
- Preventing or minimizing personal and family, physical, mental, social, educational, vocational, and economic effects of disability.
- Reducing or eliminating physical, social, educational, vocational, and environmental barriers to permit access to service and assistance and to use the handicapped person's abilities in daily life.

According to the notice published in the Federal Register on April 26, 1979, NIHR's ultimate aim is to provide knowledge for defining needs and the means for improving services and assistance and the conditions leading to the fullest possible participation of handicapped persons in all aspects of American society.

A tentative organization and staffing plan has been prepared for NIHR. The Office of Human Development Services currently envisions staff of about 118 people, divided into the following offices: director (7 people); planning, evaluation, management, and budget (41 people); public and inter-governmental affairs (8 people); research operations and special centers (30 people); technology research and development, product marketing, and distribution (16 people); and research utilization and training (16 people).

As part of its legislative mandate under the Rehabilitation, Comprehensive Services, and Developmental Disabilities Amendments of 1978, NIHR is to use a peer review mechanism for reviewing rehabilitation research and demonstration grant applications. As of June 19, 1979, NIHR officials told us that they are studying various ways to implement the peer review process but that no decision has been made concerning its specific design.